



**COMPLETE PADDY PACKAGE  
FOR FARMERS  
BY  
VST SHAKTI**



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## INTRODUCTION

### VST SHAKTI 130DI POWER TILLER - BEST IN THE FIELD FOR PADDY CULTIVATION

VST provides a handbook for complete paddy package using VST Shakti 130 DI Power Tiller and VST Shakti Rice Transplanter for farmers. Complete procedure, agricultural implements, key benefits and economics of paddy farming for both custom hiring and individual farmer are detailed in this booklet.



#### KEY FEATURES

- Rotary Width: 600 mm & 540 mm.
- Turning Radius: with brake 1.0 mt; without brake 1.5 mt
- Best for inter cultivation – 1.22 mt & 1.53 mt width.
- Less soil compaction; very good tilling; 25% increase in yield and field coverage.
- Robust transmission assembly design, which is capable of taking extreme loads even on dry soil.

#### KEY BENEFITS

- First company to introduce Power Tillers as farm machinery replacing manual farming.
- Easy maneuverability & light in weight.
- Unique Japanese design; easy availability of spares & service; good resale value.
- Established brand over decades in the farming community.

## FIELD PREPARATION

### CULTIVATOR

A Cultivator is used to break up the soil prior to sowing. It is drawn by a power tiller.



#### KEY FEATURES

- Rigid cultivator is designed for heavy duty working.
- 5 tynes are provided in the rigid cultivator.
- 0.25 ~ 0.4 acres can be cultivated in 1 hour with average diesel consumption of 1.25 ~ 1.5 lts / hr of operation

#### KEY BENEFITS

- Rigid cultivator is used for tilling soil.
- Helps in preparing the soil for a new crop.
- High strength.
- Tough in construction.



## PUDDLING

### DRUM TYPE CAGE WHEEL / LUGGED WHEELS

A rotary assembly with lugged wheels is used for puddling the soil to obtain a fine tilth - free from lumps of earth. This process is to assist transplantation of rice seedling, minimizing water usage through reduced percolation losses and effective weed control.



#### KEY FEATURES

- 18 tynes can be fitted
- Best for wet land puddling
- Bent tynes recommended for wet field & straight ones for dry field.
- 0.3 ~ 0.45 acres of land can be covered in 1 hour with average diesel consumption of 1.25 ~ 1.5 lts / hr
- Depth of tilling is 150 ~ 225 mm.

#### KEY BENEFITS

- Simple in construction with strong & sturdy design - appropriate for varied soil conditions
- The application includes : soil conditioning, weed control, seedbed preparation and puddling in wet land
- Most suitable for medium & small farmers
- Suitable for both wet and dry land crops.
- Lugged wheels to encounter challenges in a wet field
- Minimum load on tiller.

## TRANSPLANTING

### VST SHAKTI RICE TRANSPLANTER

VST Shakti Rice Transplanter is used to transplant rice seedlings onto paddy field. The machine can save considerable time and labor which makes it popular among the farmers.



#### KEY FEATURES

- It is fitted with light weight 4 HP single cylinder air cooled engine running on diesel.
- 0.3 ~ 0.5 acres can be covered in 1 hour.
- Row to row spacing is 238mm.
- Average diesel consumption is 0.4 ~ 0.5 lts / hr
- Seeding rate per acre - 12 ~ 14 kgs depending on seed variety and plant to plant spacing.
- Plant to plant spacing – 140 ~170 mm (Optionally 100 ~ 230mm possible)
- No. of seedlings per hill – 3 ~ 8 adjustable
- Depth of planting – 0 ~ 60 mm

#### KEY BENEFITS

- VST Shakti Rice Transplanter is designed for simultaneous transplanting 8 rows of seedlings in a single pass.
- This is suitable to handle both mat type & tray type nurseries.
- Even women can operate very easily.
- Highly popular across several states of our country.
- Assured return on investment in 1 to 2 years of operation.

## WATER PUMP



### KEY FEATURES

- Pump is driven by a belt connected to engine pulley.
- Suction head (height) – 5 meter
- Delivery head ( height) – upto 7.62 meter
- Discharge – 440 lts / min
- Average fuel consumption – 1.25 ~ 1.5 lts / min

### KEY BENEFITS

- Useful for pumping water from irrigation canals, lakes and wells, etc.,
- This is very essential where there is water scarcity or less rainfall.
- Crops can be safe guarded with timely supply of water.
- A tanker with self priming pump can be easily fitted for cleaning septic tanks, cess pools, clogged drainage, wells etc.

## GENSET



### KEY FEATURES

- Bracket is sturdy to carry the weight and also absorb likely vibrations.
- Generator is run by a belt driven from the engine pulley.
- Power generation – up to 5 KW, 240 volts
- Engine speed – 1500 rpm
- Average diesel consumption – 1.5 ~ 1.75 lts / hr.
- Is suitable for both resistive & connected loads

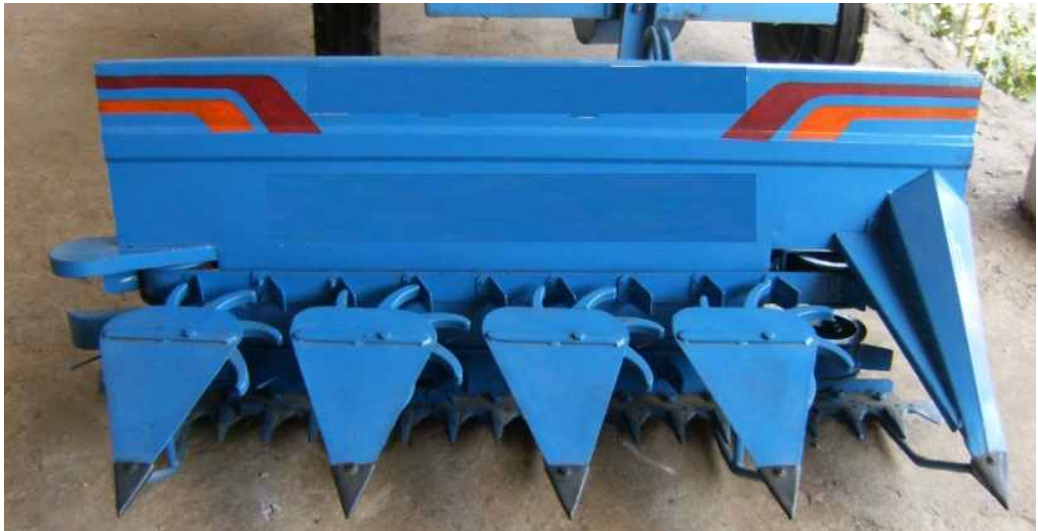
### KEY BENEFITS

- Tiller engine can be used as a prime mover coupled with standard generator available in the market.
- Very useful for operating:
  - Submersible pump sets.
  - Water pump.
  - Domestic requirements

## HARVESTING

### REAPER

A reaper attachment is used for cutting of crops at harvest time.



#### KEY FEATURES

- Reaper fitted at the front of the tiller is driven through a belt connected to engine pulley
- Reaper cuts the crop 5 ~ 7.6 cms above the ground level.
- Width of the cut is 120 ~ 150 cms and is very economical in operations.
- 0.35 ~ 0.5 acres can be covered in 1 hour of operation.
- Average diesel consumption is 1.5 ~ 1.75 lts / hr
- Cut crops are collected manually.

#### KEY BENEFITS

- Reaper fitted with the tiller is the best replacement for manual reaping.
- Saves labour & time for cutting the crops.
- Very easy to operate the reaper fitted with the tiller.
- The cut crops are carried to one side of the tiller operator by a conveyor belt.



## HARVESTING

### AXIAL FLOW THRESHER



#### KEY FEATURES

- Grain output - 1500 kgs / hr.
- Straws are thrown out to 4.6 ~ 7.6 meter away with the help of a powerful fan.
- These can be collected in gunny bags or directly into a trailer
- Average diesel consumption is 1.5 ~ 2.25 lts / hr.
- Threshers are fitted with 6 x 16 pneumatic tyres for easy transportation.
- A platform is provided for a person to stand and feed.

#### KEY BENEFITS

- Ideal replacement for manual method of threshing.
- Post threshing the grains can be collected in a tray / bag.
- Grains come out cleaned after passing through a sieve and fan.
- Threshers are fitted with pneumatic tyres for easy transportation.
- A platform is provided for a person to stand and feed.
- Blowers are made available on request for very fine cleaning.

## HAULAGE

### TRANSPORTATION



#### KEY FEATURES

- Trailer capacity is maximum 1.5 tons.
- Standard dimensions – 3.85 x 1.1 x 0.4 mts (L x W x H)
- Average consumption of diesel is 1.0 lts ~ 1.25 lts / hr.
- Trailers can be suitably modified for:
  - Garbage collection & transportation
  - A tanker of maximum capacity 1000 litres for carrying drinking water

#### KEY BENEFITS

- Primarily required for transporting manure, chemicals, implements, produce etc.
- Trailer with a mechanical brake is commonly used.
- Hydraulic tipping type can be made on specific request.
- Spraying pump can be fitted with modification for spraying application.



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## INDICATIVE COMMERCIAL OFFER – CUSTOM HIRING BY VST SHAKTI

SL. NO.	IMPLEMENTS	MRP (Rs.)	MRP (Rs.) as per SMAM GUIDELINE
1	Cultivator	7700	4620
2	Lugged Wheels	7000	4200
3	Font Mounted Reaper	45000	27000
4	Paddy Thresher	76000	60000
5	Generator with Stand	52500	52500
6	Water Pump	22000	22000
7	Trailer	55000	55000
8	Rice Transplanter	190000	114000
9	Chaff Cutter	26000	10000
	<b>Total</b>	<b>481200</b>	<b>349320</b>
10	VST Shakti 130 DI Power Tiller	160000	96000
<b>11</b>	<b>Total Cost with Tiller</b>	<b>641200</b>	<b>445320</b>

Freight & taxes etc as applicable

Calculation as per SMAM (for subsidy) guidelines for assistance

### PAY BACK PERIOD

SL. NO	DESCRIPTION	FUEL EXPENSES (Rs/hr)	MAINTENANCE OF TILLER & WEAR/TEAR (Rs/hr)	LABOUR COST (Rs/hr)	TOTAL EXPENSE (Rs/hr)	HIRING COST (Rs/hr)	NET INCOME (Rs/hr)	WORKING FOR 1 SEASON (90 ACRES)	EARNING – (Rs.) MRP	EARNING – (Rs.) SMAM NORMS
1	Cultivator	60	10	50	120	500	380	240	91200	91200
2	Lugged Wheels	60	10	50	120	500	380	240	91200	91200
3	Transplanter	24	60	250	334	1500	1166	180	209880	209880
4	Reaper	60	15	50	125	450	325	180	58500	58500
5	Thresher	60	10	50	120	300	180	144	25920	25920
6	Trailer	48	15	50	113	175	62	100	6200	6200
7	Water Pump	24	10	50	84	175	91	200	18200	18200
8	Generator	72	15	50	137	200	63	200	12600	12600
<b>TOTAL INCOME</b>									<b>513700</b>	<b>513700</b>
<b>IF 80% IS ACHIEVED</b>									<b>410960</b>	<b>410960</b>
<b>TOTAL INVESTMENT</b>									<b>641200</b>	<b>445320</b>
<b>DEPRECIATION @ 15%</b>									<b>96180</b>	<b>66798</b>
<b>NETT INCOME</b>									<b>314780</b>	<b>344162</b>
<b>ROI</b>									<b>49%</b>	<b>77%</b>
<b>PAY BACK PERIOD</b>									<b>~ 2 SEASONS</b>	<b>~ 1.25 SEASONS</b>

Assumption - 100% is 1 season



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## INDICATIVE COMMERCIAL OFFER – INDIVIDUAL FARMING BY VST SHAKTI

SL. NO.	IMPLEMENTS	MRP (Rs.)	MRP (Rs.) as per SMAM Guideline
1	Cultivator	7700	4620
2	Lugged Wheels	7000	4200
	<b>Total</b>	<b>14700</b>	<b>8820</b>
3	VST Shakti 130 DI Power Tiller	160000	96000
4	<b>Total Cost with Tiller</b>	<b>174700</b>	<b>104820</b>

Freight & taxes etc as applicable

Calculation as per SMAM (for subsidy) guidelines for assistance

## PAY BACK PERIOD

SL. NO	DESCRIPTION	FUEL EXPENSES (Rs/hr)	MAINTENANCE OF TILLER & WEAR/TEAR (Rs/hr)	LABOUR COST (Rs/hr)	TOTAL EXPENSE (Rs/hr)	HIRING COST (Rs/hr)	NET INCOME (Rs/hr)	WORKING FOR 1 SEASON (90 ACRES)	EARNING - MRP (Rs.)	EARNING - (Rs.) SMAM GUIDELINE
1	Cultivator	60	10	50	120	500	380	240	91200	91200
2	Lugged Wheels	60	10	50	120	500	380	240	91200	91200
TOTAL INCOME									182400	182400
IF 80% IS ACHIEVED									145920	145920
TOTAL INVESTMENT									174700	104820
DEPRECIATION @ 15%									26205	15723
NETT INCOME									119715	130197
ROI									69%	124%
PAY BACK PERIOD									~ 1.5 SEASONS	~ 0.75 SEASON

Assumption - 100% is 1 season

## ASSUMPTIONS MADE

OPERATION	ACRES/ DAY (8 HOURS)	ACRES/ HOUR	NO. OF DAYS REQD FOR 90 ACRES	NO. OF HOURS
<b>Cultivator</b>	3	0.38	30	240
<b>Puddling</b>	3	0.38	30	240
<b>Reaper</b>	4	0.5	23	180
<b>Thresher</b>	5	0.63	18	144
<b>RTP</b>	4	0.50	23	180

- Cultivator maintenance after every season - Rs. 1500/-
- 1 puddling operation required in a season & subsequent replacement of tynes etc.  
- Rs. 5000/-
- Diesel cost Rs. 48 / ltr is considered
- Recommend service of power tiller at the end of season (includes change of oil and filters) - Rs. 3500/-
- Salary towards labour - Rs. 7500 / month for working 8 hours a day for 25 days
- Mandatory maintenance for reaper / replacement of star wheel, conveyor belt, blades of reaper at the end of season - Rs. 3000/-
- Regular maintenance of thresher after every season of working - Rs. 2500/-
- Rice transplanter maintenance at the end of season - Rs. 10000/-



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